



SEQUENCE LISTING

COPY OF PAPERS
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#7

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<120> IMMUNOASSAYS FOR HUMAN AND CANINE BRAIN
NATRIURETIC PEPTIDE

<130> 219002025213

<140> 09/902,517

<141> 2001-07-09

<150> 09/287,892

<151> 1999-04-07

<150> 08/850,910

<151> 1997-05-05

<150> 07/477,226

<151> 1990-02-08

<150> 07/299,880

<151> 1989-01-19

<150> 07/206,470

<151> 1988-06-14

<150> 07/200,383

<151> 1988-05-31

<160> 50

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 26

<212> PRT

<213> Unknown

<220>

<223> A portion of human ANP and pBNP.

<400> 1

Gly Ser Gly Cys Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser
1 5 10 15

Gly Leu Gly Cys Lys Val Leu Arg Arg His
20 25

<210> 2

<211> 25

<212> PRT

<213> Unknown

<220>

<223> A portion of human ANP and the pBNP.

<400> 2

Arg	Ser	Ser	Cys	Phe	Gly	Gly	Arg	Met	Asp	Arg	Ile	Gly	Ala	Gln	Ser
1				5				10						15	
Gly	Leu	Gly	Cys	Asn	Ser	Phe	Arg	Tyr							
		20						25							

<210> 3

<211> 26

<212> PRT

<213> Unknown

<220>

<223> A portion of human ANP and pBNP.

<400> 3

Asp	Ser	Gly	Cys	Phe	Gly	Arg	Arg	Leu	Asp	Arg	Ile	Gly	Ser	Leu	Ser
1				5				10						15	
Gly	Leu	Gly	Cys	Asn	Val	Leu	Arg	Arg	Tyr						
		20						25							

<210> 4

<211> 6

<212> PRT

<213> Unknown

<220>

<223> An additional N-terminal amino acid extension.

<400> 4

Ser	Pro	Lys	Thr	Met	Arg
1				5	

<210> 5

<211> 17

<212> PRT

<213> Unknown

<220>

<223> Peptides having natriuretic activity.

<221> VARIANT

<222> (5)...(5)

<223> Xaa = Arg or Lys

<221> VARIANT

<222> (6)...(6)

<223> Xaa = Leu or Met

<221> VARIANT

<222> (10)...(10)

<223> Xaa = Gly or Ser

<221> VARIANT

<222> (12)...(12)

<223> Xaa = Leu or Ser

<400> 5
 Cys Phe Gly Arg Xaa Xaa Asp Arg Ile Xaa Ser Xaa Ser Gly Leu Gly
 1 5 10 15
 Cys

<210> 6
 <211> 4
 <212> PRT
 <213> Unknown

<220>
 <223> R1

<221> VARIANT
 <222> (1)...(1)
 <223> Xaa = His, Arg or Gln

<221> VARIANT
 <222> (2)...(2)
 <223> Xaa = Lys, Asp or Gly

<400> 6
 Xaa Xaa Ser Gly
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<210> 7
 <211> 5
 <212> PRT
 <213> Unknown

<220>
 <223> R1

<221> VARIANT
 <222> (1)...(1)
 <223> Xaa = Met or Val

<221> VARIANT
 <222> (2)...(2)
 <223> Xaa = His, Arg or Gln

<221> VARIANT
 <222> (3)...(3)
 <223> Xaa = Lys, Asp or Gly

<400> 7
 Xaa Xaa Xaa Ser Gly
 1 5

<210> 8
 <211> 6
 <212> PRT
 <213> Unknown

<220>

<223> R1

<221> VARIANT

<222> (1)...(1)

<223> Xaa = Thr or Met

<221> VARIANT

<222> (2)...(2)

<223> Xaa = Met or Val

<221> VARIANT

<222> (3)...(3)

<223> Xaa = His, Arg or Gln

<221> VARIANT

<222> (4)...(4)

<223> Xaa = Lys, Asp or Gly

<400> 8

Xaa Xaa Xaa Xaa Ser Gly

1

5

<210> 9

<211> 7

<212> PRT

<213> Unknown

<220>

<223> R1

<221> VARIANT

<222> (2)...(2)

<223> Xaa = Thr or Met

<221> VARIANT

<222> (3)...(3)

<223> Xaa = Met or Val

<221> VARIANT

<222> (4)...(4)

<223> Xaa = His, Arg or Gln

<221> VARIANT

<222> (5)...(5)

<223> Xaa = Lys, Asp or Gly

<400> 9

Lys Xaa Xaa Xaa Xaa Ser Gly

1

5

<210> 10

<211> 8

<212> PRT

<213> Unknown

<220>

<223> R1

<221> VARIANT
<222> (3)...(3)
<223> Xaa = Thr or Met

<221> VARIANT
<222> (4)...(4)
<223> Xaa = Met or Val

<221> VARIANT
<222> (5)...(5)
<223> Xaa = His, Arg or Gln

<221> VARIANT
<222> (6)...(6)
<223> Xaa = Lys, Asp or Gly

<400> 10
Pro Lys Xaa Xaa Xaa Xaa Ser Gly
1 5

<210> 11
<211> 9
<212> PRT
<213> Unknown

<220>
<223> R1

<221> VARIANT
<222> (4)...(4)
<223> Xaa = Thr or Met

<221> VARIANT
<222> (5)...(5)
<223> Xaa = Met or Val

<221> VARIANT
<222> (6)...(6)
<223> Xaa = His, Arg or Gln

<221> VARIANT
<222> (7)...(7)
<223> Xaa = Lys, Asp or Gly

<400> 11
Ser Pro Lys Xaa Xaa Xaa Xaa Ser Gly
1 5

<210> 12
<211> 4
<212> PRT
<213> Unknown

<220>
<223> R2

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<221> VARIANT
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<223> Xaa = Asn or Lys

<400> 12
Xaa Val Leu Arg
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<210> 13
<211> 5
<212> PRT
<213> Unknown

<220>
<223> R2

<221> VARIANT
<222> (1)...(1)
<223> Xaa = Asn or Lys

<221> VARIANT
<222> (5)...(5)
<223> Xaa = Arg or Lys

<400> 13
Xaa Val Leu Arg Xaa
1          5

<210> 14
<211> 6
<212> PRT
<213> Unknown

<220>
<223> R2

<221> VARIANT
<222> (1)...(1)
<223> Xaa = Asn or Lys

<221> VARIANT
<222> (5)...(5)
<223> Xaa = Arg or Lys

<221> VARIANT
<222> (6)...(6)
<223> Xaa = Tyr or His

<400> 14
Xaa Val Leu Arg Xaa Xaa
1          5

<210> 15
<211> 17
<212> PRT
<213> Unknown

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<220>

<223> Proviso formula (1)

<400> 15

Cys Phe Gly Arg Arg Leu Asp Arg Ile Gly Ser Leu Ser Gly Leu Gly

1

5

10

15

Cys

<210> 16

<211> 6

<212> PRT

<213> Unknown

<220>

<223> Proviso formula (1)

<400> 16

Asn Val Leu Arg Arg Tyr

1

5

<210> 17

<211> 1504

<212> DNA

<213> Unknown

<220>

<223> cDNA encoding porcine BNP.

<400> 17

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ccccgcgtgc	tectgctect	gttcttgcac	ctggtgctgc	taggatgccg	ttcccatcca	180
ctgggtggcg	ctggcctggc	ctcagaactg	ccagggatac	aggtgagccc	tgatgaactg	240
cttagacttg	gttggctggg	agggcgcgga	cagcagcaac	taacgggtcc	ccacctactg	300
ttccaagagg	gctctaacct	cctttgggaa	ctagtataaa	ggggtttaga	aggcagccag	360
gtctgggggtg	aggaccgct	cccaaggcag	ttggttcgct	tcagcaccat	caagagtgat	420
gggtccagg	gcgagttcct	gaggctcggt	ctccccacc	catcccagga	gctgctggac	480
cgcctgcgag	acagggtctc	cgagctgcag	gcgacgggac	ggacctggag	cccctccggc	540
aggaccgtgg	cctcacagaa	gcctgggagg	cgagggaagc	agccccacg	ggggttcttg	600
ggccccgcag	tagcatcttc	caagtctctc	ggggaatacg	cagccccaa	acgatgcgtg	660
actctggctg	ctttgggcgg	aggctggacc	ggatcggtct	cctcagcggc	ctgggctgca	720
atggtgagca	cccaccccat	tcccactgca	cgccccggtt	agcatcactt	ctgggtttga	780
tgtctctggg	accaaactcc	gagaaaagga	cacctggata	tcactctttc	ttgttgccag	840
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gactatgagt	ccccaccac	cttctcgcca	ccccctgcct	ctctcacc	aggcggcaga	960
attacttttag	gatgtaaatt	ctgtcattgc	ctggctgccc	ctcctgggag	caaaaagaga	1020
actaaacctc	ttccccctgg	tttccccctc	actgtctgtg	gctgcaaagg	cagagggcag	1080
gatcaccagg	gtgatgacaa	gtcccagctt	acaaggagga	aactcaggtc	cagagagatg	1140
gattatccca	aagccccaaa	catccagttc	tgtgaagaa	ggcgggtggc	aggggtggca	1200
cgtggtgggg	ggaagcccag	gtcctgcctg	cctctcacc	taatgtcatc	ctcaccctct	1260
ctctcccccc	cacagtgtct	aggagggtact	gagaagtctc	ggctgacaac	ctctgtgtcc	1320
gcttctccaa	cgccccctcc	ctgctcccct	tcaaagcaac	tctgtttttt	atttatgtat	1380
ttattttatt	atttatttgg	tggttgtata	taagacgggt	cttatttgtg	agcacatttt	1440
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attc						1504

<210> 18
 <211> 177
 <212> PRT
 <213> Unknown

<220>
 <223> Amino acids encoding porcine BNP.

<400> 18
 Met Gly Pro Arg Met Ala Leu Pro Arg Val Leu Leu Leu Leu Phe Leu
 1 5 10 15
 His Leu Leu Leu Leu Gly Cys Arg Ser His Pro Leu Gly Gly Ala Gly
 20 25 30
 Leu Ala Ser Glu Leu Pro Gly Ile Gln Val Ser Pro Asp Glu Leu Leu
 35 40 45
 Arg Leu Gly Trp Leu Gly Gly Arg Gly Gln Gln Gln Leu Thr Gly Pro
 50 55 60
 His Leu Leu Phe Gln Glu Gly Ser Asn Leu Leu Trp Glu Leu Val Ile
 65 70 75 80
 Arg Gly Leu Glu Gly Ser Gln Ala Gly Gly Glu Asp Pro Leu Pro Arg
 85 90 95
 Gln Leu Val Arg Phe Ser Thr Ile Lys Ser Asp Gly Ser Arg Cys Glu
 100 105 110
 Phe Leu Arg Leu Gly Leu Pro His Pro Ser Gln Glu Leu Leu Asp Arg
 115 120 125
 Leu Arg Asp Arg Val Ser Glu Leu Gln Ala Thr Gly Arg Thr Trp Ser
 130 135 140
 Pro Ser Gly Arg Thr Val Ala Ser Gln Lys Pro Gly Arg Arg Gly Lys
 145 150 155 160
 Gln Pro Pro Arg Gly Phe Leu Gly Pro Ala Val Ala Ser Ser Lys Ser
 165 170 175
 Ser

<210> 19
 <211> 13
 <212> PRT
 <213> Unknown

<220>
 <223> Amino acid sequence encoding porcine BNP.

<400> 19
 Pro Ala Cys Ser Cys Ser Cys Ser Cys Thr Cys Cys Cys
 1 5 10

<210> 20
 <211> 20
 <212> PRT
 <213> Unknown

<220>
 <223> Amino acid sequence encoding porcine BNP.

<400> 20
 Asp Ala Val Pro Ile His Trp Val Ala Leu Ala Trp Pro Gln Asn Cys
 1 5 10 15

Gln Gly Tyr Arg
20

<210> 21
<211> 18
<212> PRT
<213> Unknown

<220>
<223> Amino acid sequence encoding porcine BNP

<400> 21
Ala Leu Met Asn Cys Leu Asp Leu Val Gly Trp Glu Gly Ala Asp Ser
1 5 10 15
Ser Asn

<210> 22
<211> 16
<212> PRT
<213> Unknown

<220>
<223> Amino acid sequence encoding porcine BNP

<400> 22
Arg Val Pro Thr Tyr Cys Ser Lys Arg Ala Leu Thr Ser Phe Gly Asn
1 5 10 15

<210> 23
<211> 30
<212> PRT
<213> Unknown

<220>
<223> Amino acid sequence encoding porcine BNP

<400> 23
Lys Ala Ala Arg Leu Gly Val Arg Thr Arg Ser Gln Gly Ser Trp Phe
1 5 10 15
Ala Ser Ala Pro Ser Arg Val Met Gly Pro Gly Ala Ser Ser
20 25 30

<210> 24
<211> 56
<212> PRT
<213> Unknown

<220>
<223> Amino acid sequence encoding porcine BNP

<400> 24
Gly Ser Gly Ser Pro Thr His Pro Arg Ser Cys Trp Thr Ala Cys Glu
1 5 10 15
Thr Gly Ser Pro Ser Cys Arg Arg Arg Asp Gly Pro Gly Ala Pro Pro
20 25 30
Ala Gly Pro Trp Pro His Arg Ser Leu Gly Gly Glu Gly Ser Ser Pro

Gly

<210> 29
<211> 15
<212> PRT
<213> Unknown

<220>
<223> Amino acid sequence encoding BNP

<400> 29
Gly Pro Ala Pro Lys Ala Val Gly Ser Leu Gln His His Gln Glu
1 5 10 15

<210> 30
<211> 106
<212> PRT
<213> Unknown

<220>
<223> Amino acid encoding porcine BNP

<400> 30
Trp Val Gln Val Arg Val Pro Glu Ala Arg Ala Pro Pro Pro Ile Pro
1 5 10 15
Gly Ala Ala Gly Pro Pro Ala Arg Gln Gly Leu Arg Ala Ala Gly Asp
20 25 30
Gly Thr Asp Leu Glu Pro Leu Arg Gln Asp Arg Gly Leu Thr Glu Ala
35 40 45
Trp Glu Ala Arg Glu Ala Ala Pro Thr Gly Val Leu Gly Pro Arg Ser
50 55 60
Ser Ile Phe Gln Val Leu Arg Gly Ile Arg Ser Pro Lys Thr Met Arg
65 70 75 80
Asp Ser Gly Cys Phe Gly Arg Arg Leu Asp Arg Ile Gly Ser Leu Ser
85 90 95
Gly Leu Gly Cys Asn Val Leu Arg Arg Tyr
100 105

<210> 31
<211> 60
<212> DNA
<213> Unknown

<220>
<223> Oligonucleotides

<400> 31
tccagctgct tcgggggcag gatggacagg attggagccc agagcggact gggctgtaac 60

<210> 32
<211> 20
<212> PRT
<213> Unknown

<220>
<223> Amino acids encoding pBNP

<400> 32
 Ser Ser Cys Phe Gly Gly Arg Met Asp Arg Ile Gly Ala Gln Ser Gly
 1 5 10 15
 Leu Gly Cys Asn
 20

<210> 33
 <211> 60
 <212> DNA
 <213> Unknown

<220>
 <223> Oligonucleotides

<221> misc_feature
 <222> (1)...(60)
 <223> n = A,T,C or G

<400> 33
 acnggntgct tgggncgncg nctngaccgn atnggntcnc tntcnggnct nggntgcaac 60

<210> 34
 <211> 20
 <212> PRT
 <213> Unknown

<220>
 <223> Amino acids encoding pBNP

<400> 34
 Ser Gly Cys Phe Gly Arg Arg Leu Asp Arg Ile Gly Ser Leu Ser Gly
 1 5 10 15
 Leu Gly Cys Asn
 20

<210> 35
 <211> 60
 <212> DNA
 <213> Unknown

<220>
 <223> Oligonucleotides

<400> 35
 aggccgacga agcccgcgtc cgacctgtcc taacctaggg actcgccctga cccgacattg 60

<210> 36
 <211> 60
 <212> DNA
 <213> Unknown

<220>
 <223> Oligonucleotide

<400> 36
 tcgccgacga agccgtcttc tgagctgtct tagccgtcgg agtcgccgga gccgacgttg 60

<210> 37
 <211> 60
 <212> DNA
 <213> Unknown

<220>
 <223> Oligonucleotide

<400> 37
 aggtcgacga agccccgctc ctacctgtcc taacctcggg tctcgctga cccgacattg 60

<210> 38
 <211> 1507
 <212> DNA
 <213> Unknown

<220>
 <223> cDNA of Fig 1

<400> 38
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 cggcagcagg cagcagcctc tatcctctcc tccagccaca tgggcccccg gatggcgctt 120
 ccccgcgctg tcctgctcct gttcttgac ctgttgctgc taggatgccg ttcccatcca 180
 ctgggtggcg ctggcctggc ctcagaactg ccagggatac aggtgagccc tgatgaactg 240
 cttagacttg gttggctggg agggcgcgga cagcagcaac taacgggtcc ccacctactg 300
 ttccaagagg gctctaacct cctttgggaa ctagtataa ggggttagaa ggcagccagg 360
 ctgggggtga ggacccccg cccaaggcag ttggttcgct tcagcaccat caagagtgat 420
 ggggtccagg ggcaggttct gaggtcggg ctccccacc catcccagga gctgctggac 480
 cgctgctgag acaggggtct cgagctgcag gcggagcgga cggacctgga gccctccgg 540
 caggaccgtg gcctcacaga agcctgggag gcgaggggag cagccccac gggggttctt 600
 gggccccgca gtagcatctt ccaagtcctc cggggaatac gcagcccca gacgatgcgt 660
 gactctggct gctttgggag gaggtggac cggatcggtt ccctcagcgg cctgggctgc 720
 aatggtgagc acccaccctt attcccactg cagcggcggt ttagcatcac ttctgggtt 780
 gatgtctctg gggaccaaac tccgagaaaa ggacacctg atatcactt ttctgttg 840
 cagtcctcaa ggccaaggag cgccttcctg gaaaaattaa atttggacag cattcactag 900
 catgactatg agtccccacc caccttctcg ccacccctg cctctctcac ccaaggcggc 960
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 caggatcacc aggtgatga caagtcccag cttacaagga ggaaactcag gtccagagag 1140
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 gcacgtggtg gggggaagcc caggtcctgc ctgcctctca ccctaattgc atcctcacc 1260
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 tccgcttctc caacgcccc cccctgtccc ccttcaaagc aactcctgtt tttatttatg 1380
 tattttatta tttatttatt tgggtggtgt atataagacg gttcttattt gtgagcacat 1440
 tttttccatg gtgaaataaa gtcaacatta gagctctgtc ttttgaaaaa aaaaaaaaaa 1500
 ggaattc 1507

<210> 39
 <211> 131
 <212> PRT
 <213> Unknown

<220>
 <223> Additional intron of Fig 1

<400> 39

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Met Gly Pro Arg Met Ala Leu Pro Arg Val Leu Leu Leu Leu Phe Leu
 1           5           10           15
His Leu Leu Leu Leu Gly Cys Arg Ser His Pro Leu Gly Gly Ala Gly
          20           25           30
Leu Ala Ser Glu Leu Pro Gly Ile Gln Glu Leu Leu Asp Arg Leu Arg
          35           40           45
Asp Arg Val Ser Glu Leu Gln Ala Glu Arg Thr Asp Leu Glu Pro Leu
          50           55           60
Arg Gln Asp Arg Gly Leu Thr Glu Ala Trp Glu Ala Arg Glu Ala Ala
65           70           75           80
Pro Thr Gly Val Leu Gly Pro Arg Ser Ser Ile Phe Gln Val Leu Arg
          85           90           95
Gly Ile Arg Ser Pro Lys Thr Met Arg Asp Ser Gly Cys Phe Gly Arg
          100          105          110
Arg Leu Asp Arg Ile Gly Ser Leu Ser Gly Leu Gly Cys Asn Val Leu
          115          120          125
Arg Arg Tyr
          130

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<210> 40
 <211> 707
 <212> DNA
 <213> Unknown

<220>
 <223> Coding portions of pBNP encoding cDNA

```

<400> 40
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cggcagcagg cagcagcctc tatcctctcc tccagccaca tgggcccccg gatggcgctt      120
ccccgcgtgc tctgtctcct gttcttgacac ctgttgctgc taggatgccg ttcccatcca      180
ctgggtggcg ctggcctggc ctcagaactg ccagggatac aggagctgct ggaccgcctg      240
cgagacaggg tctccgagct gcaggcggag cggacggacc tggagcccct ccggcaggac      300
cgtggcctca cagaagcctg ggaggcgagg gaagcagccc ccacgggggt tcttgggccc      360
cgcagtagca tcttccaagt cctccgggga atacgcagcc ccaagacgat gcgtgactct      420
ggctgctttg ggcggaggct ggaccggatc ggctccctca gcggcctggg ctgcaatgtg      480
ctcaggaggt actgagaagt cctggctgac aacctctgtg tccgcttctc caacgccct      540
cccctgctcc ccttcaaagc aactcctgtt tttatttatg tattttattta tttatttatt      600
tggtggttgt atataagacg gttcttattt gtgagcacat tttttccatg gtgaaataaa      660
gtcaacatta gagctctgtc ttttgaaaaa aaaaaaaaaa ggaattc      707

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<210> 41
 <211> 131
 <212> PRT
 <213> Unknown

<220>
 <223> Coding portions of pBNP

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<400> 41
Met Gly Pro Arg Met Ala Leu Pro Arg Val Leu Leu Leu Leu Phe Leu
 1           5           10           15
His Leu Leu Leu Leu Gly Cys Arg Ser His Pro Leu Gly Gly Ala Gly
          20           25           30
Leu Ala Ser Glu Leu Pro Gly Ile Gln Glu Leu Leu Asp Arg Leu Arg
          35           40           45
Asp Arg Val Ser Glu Leu Gln Ala Glu Arg Thr Asp Leu Glu Pro Leu

```

50	55	60
Arg Gln Asp Arg Gly Leu Thr Glu Ala Trp Glu Ala Arg Glu Ala Ala		
65	70	75
Pro Thr Gly Val Leu Gly Pro Arg Ser Ser Ile Phe Gln Val Leu Arg		80
	85	90
Gly Ile Arg Ser Pro Lys Thr Met Arg Asp Ser Gly Cys Phe Gly Arg		95
	100	105
Arg Leu Asp Arg Ile Gly Ser Leu Ser Gly Leu Gly Cys Asn Val Leu		110
	115	120
Arg Arg Tyr		125
130		

<210> 42
 <211> 1804
 <212> DNA
 <213> Unknown

<220>
 <223> DNA for the coding portions of the gene encoding a
 canine protein with natriuretic activity

<400> 42

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actgttggtg	tccccctcct	gcccttttgg	ggccaggccc	acttctatac	aaggcctgct	120
ctccagcctc	caccccggcg	ggtatggtgc	aggcgcggag	gggcgcattc	ccccgccctg	180
agctcagcgg	ccggaatgcg	gccgataaat	cagagataac	cccaggcgcg	ggataaggga	240
taaaaagccc	ccgttgccgc	gggatccagg	agagcacccg	cgccccaagc	ggtgacactc	300
gaccccggtc	gcagcgcagc	agctcagcag	ccggacgtct	ctttccccac	ttctctccag	360
cgacatggag	ccctgcgcag	cgctgccccg	ggccctcctg	ctcctcctgt	tcttgacact	420
gtcgccactc	ggaggccgcc	cccacccgct	gggcggccgc	agccccgcct	cggaagcctc	480
ggaagcctca	gaagcctcgg	ggttgtgggc	cgtcagagtg	agcgtcagc	ctgcctgaag	540
gccgcggcgg	gtggcagcag	gtcacggggg	cttagccact	gtcccaagtc	ctcagctctc	600
cttggaatt	agtataaagg	gaatcagaaa	gtgacgagat	tgggtgccag	gactccatac	660
ccaaggcggc	ggcttcactt	gggtgcaagg	gtggttccgc	cccggcgtgg	gttcctgagg	720
ctcaggccgt	ccattgcagg	agctgctggg	ccgtctgaag	gacgcagttt	cagagctgca	780
ggcagagcag	ttggccctgg	aaccctgca	ccggagccac	agccccgcag	aagccccgga	840
ggccggagga	acgccccgtg	gggtccttgc	accccatgac	agtgtcctcc	aggccctgag	900
aagactacgc	agccccaaga	tgatgcacaa	gtcagggtgc	tttggccgga	ggctggaccg	960
gatcggtctc	ctcagtggcc	tgggctgcaa	tggtaagccg	cctccctgcc	gccttggctc	1020
ccccccccca	gccccctggg	ttcgaccctt	ggaacccctt	ctgggtttgt	tgtctcgggg	1080
gatcacactc	tgaggaaagg	acatctggac	atcgctcctt	cttgctgaca	gtcctaaggg	1140
ccaaggagta	cgtttctgga	aatactacgt	gtggacatcg	ttgtccaggg	tccctaccca	1200
cctcctagcc	ccctcctgcc	tctcgcaccc	aaagggcaga	atcatcttag	gatggaatca	1260
gtcgttgtct	ggaagcatct	ccttgagca	gaaagagtcc	ttaaactcgt	cctcgtagct	1320
ctctctgtct	gtctgtagcc	acgaaggcag	aggtcagggt	caccagggca	gtgatgattc	1380
ccagttaaca	gaggaggaga	ctgaggtcta	gagagatgga	ttattccaaa	gcctcaaaac	1440
tccagatcgg	ctgaggggtg	ggttggtggc	agggatggct	cctgggcttg	ggaagctcgg	1500
atcctgcctc	agtctccac	ctgacgccat	catccccctc	tctctcctcc	cacagtgtctg	1560
agaaagtatt	aaggaggaag	tcccgaactgc	ccacatctgc	attggattct	tcagcagccc	1620
ctgagccccct	tggaagcaga	tcttatttat	tcgtatttat	ttatttattt	atttcgattg	1680
ttttatataa	gatgatcctg	acgcccgcagc	acggattttc	cacggtgaaa	taaagtcaac	1740
cttagagctt	cttttgaaac	cgatttgtcc	ctgtgcatta	aaagtaaac	atcatttaaa	1800
aaaa						1804

<210> 43
 <211> 131
 <212> PRT

<213> Unknown

<220>

<223> Protein sequence for the coding portions of the gene encoding a canine protein with natriuretic activity.

<400> 43

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Met Glu Pro Cys Ala Ala Leu Pro Arg Ala Leu Leu Leu Leu Phe
 1          5          10          15
Leu His Leu Ser Pro Leu Gly Gly Arg Pro His Pro Leu Gly Gly Arg
 20          25          30
Ser Pro Ala Ser Glu Ala Ser Glu Ala Ser Glu Leu Leu Gly Arg Leu
 35          40          45
Lys Asp Ala Val Ser Glu Leu Gln Ala Glu Gln Leu Ala Leu Glu Pro
 50          55          60
Leu His Arg Ser His Ser Pro Ala Glu Ala Pro Glu Ala Gly Gly Thr
 65          70          75          80
Pro Arg Gly Val Leu Ala Pro His Asp Ser Val Leu Gln Ala Leu Arg
 85          90          95
Arg Leu Arg Ser Pro Lys Met Met His Lys Ser Gly Cys Phe Gly Arg
100          105          110
Arg Leu Asp Arg Ile Gly Ser Leu Ser Gly Leu Gly Cys Asn Val Leu
115          120          125
Arg Lys Tyr
130
```

<210> 44

<211> 1519

<212> DNA

<213> Unknown

<220>

<223> DNA encoding human NRP

<400> 44

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cccacgggtg cccgaggagc caggaggagc accccgcagg ctgagggcag gtgggaagca      60
aaccgcgacg catcgagcag gcagcagcag cagcagaagc agcagcagca gcctccgcag      120
tccctccaga gacatggatc cccagacagc accttcccgg gcgctcctgc tctgctctt      180
cttgcattct gctttcctgg gaggtcgttc ccaccgcctg ggcagccccg gttcagcctc      240
ggacttgga aacgtccgggt tacaggtgag agcggagggc agctcagggg gattggacag      300
cagcaatgaa agggctctca cctgctgtcc caagaggccc tcattcttcc tttggaatta      360
gtgataaagg aatcagaaaa tggagagact ggggtgcctg accctgtacc caaggcagtc      420
ggttcacttg ggtgccatga agggctggtg agccaggggt gggtcctga ggcttgacg      480
ccccattca ttgcaggagc agcgaacca tttgcagggc aaactgtcgg agctgcaggt      540
ggagcagaca tccctggagc ccctccagga gagccccgt cccacaggtg tctggaagtc      600
ccgggaggta gccaccgagg gcatccgtgg gcaccgcaa atggtcctct acaccctgcg      660
ggcaccacga agccccaaga tgggtgcaagg gtctggctgc tttgggagga agatggaccg      720
gatcagctcc tccagtggcc tgggctgcaa aggtaagcac cccctgccac cccggccgcc      780
ttccccatt ccagtgtgtg aactgttag agtcactttg gggtttggtg tctctgggaa      840
ccacactctt tgagaaaagg tcacctggac atcgcttctt cttgttaaca gccttcaggg      900
ccaaggggtg cttttgtgga attagtaaat gtgggcttat ttcattacca tgcccacaat      960
accttctccc cactcctac ttcttatcaa aggggcagaa tctcctttgg gggctctgtt      1020
atcaattggc agccccccag tgggtgcagaa agagaaccaa acatttcctc ctggtttctt      1080
ctaaactgtc tatagtctca aaggcagaga gcaggatcac cagagcaatg ataatcccca      1140
atttacagat gaggaactg aggtcagag agttgcatta agcctcaaac gtctgatgac      1200
taacagggtg gtgggtggca cacgatgagg taagctcagc cctgcctcc atctcccacc      1260
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```

ctaaccatca tcaccctctc tctttccctg acagtgtga gccggcatta agaggaagtc 1320
ctggctgcag acacctgctt ctgattccac aaggggcttt ttcctcaacc ctgtggccct 1380
catctttcct ttggaattag tgataaagga atcagaaaat ggagagactg ggtgccctga 1440
ccctgtaccc aaggcagtcg gttcacttgg gtgccatgaa gggcctggtg agccaggggt 1500
tgggtccctg aggttttta 1519

```

<210> 45
 <211> 134
 <212> PRT
 <213> Unknown

<220>
 <223> Deduced amino acid sequence of the human NRP

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<400> 45
Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Leu Phe
1          5          10          15
Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro
20          25          30
Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn
35          40          45
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
50          55          60
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Thr Lys Ser Arg
65          70          75          80
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
85          90          95
Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
100         105         110
Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
115         120         125
Lys Val Leu Arg Arg His
130

```

<210> 46
 <211> 131
 <212> PRT
 <213> Unknown

<220>
 <223> Comparison sequences of the prepro forms of the
 porcine proteins of the invention

```

<400> 46
Met Gly Pro Arg Met Ala Leu Pro Arg Val Leu Leu Leu Leu Phe Leu
1          5          10          15
His Leu Leu Leu Leu Gly Cys Arg Ser His Pro Leu Gly Gly Ala Gly
20          25          30
Leu Ala Ser Glu Leu Pro Gly Ile Gln Glu Leu Leu Asp Arg Leu Arg
35          40          45
Asp Arg Val Ser Glu Leu Gln Ala Glu Arg Thr Asp Leu Glu Pro Leu
50          55          60
Arg Gln Asp Arg Gly Leu Thr Glu Ala Trp Glu Ala Arg Glu Ala Ala
65          70          75          80
Pro Thr Gly Val Leu Gly Pro Arg Ser Ser Ile Phe Gln Val Leu Arg
85          90          95
Gly Ile Arg Ser Pro Lys Thr Met Arg Asp Ser Gly Cys Phe Gly Arg

```

	100		105		110
Arg Leu Asp Arg Ile Gly Ser Leu Ser Gly Leu Gly Cys Asn Val Leu					
115		120		125	
Arg Arg Tyr					
130					

<210> 47
 <211> 132
 <212> PRT
 <213> Unknown

<220>
 <223> Comparison sequence of the prepro forms of the
 canine proteins of the invention

<400> 47

Met Glu Pro Cys Ala Ala Leu Pro Arg Ala Leu Leu Leu Leu Leu Phe															
1		5		10										15	
Leu His Leu Ser Pro Leu Gly Gly Arg Pro His Pro Leu Gly Gly Arg															
20				25									30		
Ser Pro Ala Ser Glu Ala Ser Glu Ala Ser Glu Leu Leu Gly Arg Leu															
35				40									45		
Lys Asp Ala Val Ser Glu Leu Gln Ala Glu Gln Leu Ala Leu Glu Pro															
50				55									60		
Leu Arg His Arg Ser His Ser Pro Ala Ala Trp Pro Ala Arg Gly Gly															
65				70									75		80
Thr Pro Arg Gly Val Leu Ala Pro His Asp Ser Val Leu Gln Ala Leu															
85															95
Arg Arg Leu Arg Ser Pro Lys Met Met His Lys Ser Gly Cys Phe Gly															
100				105									110		
Arg Arg Leu Asp Arg Ile Gly Ser Leu Ser Gly Leu Gly Cys Asn Val															
115				120									125		
Leu Arg Lys Tyr															
130															

<210> 48
 <211> 134
 <212> PRT
 <213> Unknown

<220>
 <223> Comparison sequence of the prepro forms of the
 human proteins of the invention

<400> 48

Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Leu Phe															
1		5		10											15
Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro															
20				25										30	
Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn															
35				40									45		
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu															
50				55									60		
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg															
65				70									75		80
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr															
85															95

Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
100 105 110
Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
115 120 125
Lys Val Leu Arg Arg His
130

<210> 49
<211> 32
<212> PRT
<213> Unknown

<220>
<223> R2

<400> 49
Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1 5 10 15
Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
20 25 30

<210> 50
<211> 41
<212> PRT
<213> Unknown

<220>
<223> R2

<400> 50
Ser Pro Lys Met Met His Lys Ser Gly Cys Phe Gly Arg Arg Leu Asp
1 5 10 15
Arg Ile Gly Ser Leu Ser Gly Leu Gly Cys Ser Pro Lys Met Met His
20 25 30
Lys Ser Gly Asn Val Leu Arg Lys Tyr
35 40